2004 GALVESTON BAY INVASIVE SPECIES RISK ASSESSMENT
INVASIVE SPECIES SUMMARY
Created by: Environmental Institute of Houston, University of Houston-Clear Lake
and the Houston Advanced Research Center

Common Name: Eurasian ruffe

Latin Name: *Gymnocephalus cernuus*

Category: Bacteria, Aquatic Plant, Aquatic Animal, Terrestrial Animal, Terrestrial Animal

Place of Origin: "Northern Europe and Asia (Berg 1949; Wheeler 1978; Page and Burr 1991) (http://nas.er.usgs.gov/fishes/accounts/percidae/gy_cernu.html."

Place of Introduction: The St. Louis River at the border of **Minnesota** and **Wisconsin** (Pratt et al. 1992).

Date of Introduction: 1986 (Pratt et al. 1992), possibly as early as 1982-1983 (Ruffe Task Force 1992).

Life History: "In Europe, the ruffe generally matures and begins to reproduce in two or three years, but it may mature in one year in warmer waters. It spawns between mid-April and July, depending on location, water temperature and preferred years. An average female can produce 130,00 to 200,000 eggs per season (http://www.seagrant.wisc.edu/greatlakesfish/fruffe1.html)."

Growth/Size: 25 cm

Attitude (aggressive, etc.): "The ruffe has affected fish populations in other areas where introduced. In Scotland, native perch populations declined, and in Russia whitefish numbers have declined because of egg predation by ruffe (McLean 1993). Ruffe exhibit rapid growth and high reproductive output, and adapt to a wide range of habitat types (McLean 1993); therefore the species may pose a threat to native North American fish. Yellow perch *Perca flavescens*, emerald shiners *Notropis atherinoides*, and trout-perch *Percopsis omiscomaycus* have all declined since the introduction of this fish, although the association is not clear (McLean 1993). There is much concern that ruffe may have a detrimental effect on more desirable species in Lake Superior, such as yellow perch and walleye, by feeding on the young of these species (Raloff 1992), or by competing for food (McLean 1993). Savino and Kolar (1996) conducted a laboratory study to test for competition for food between ruffe and yellow perch. They found that competition could occur between the two species but that the outcome would not always be clear. Each species exhibited competitive advantages and disadvantages. Ogle et al. (1995) studied the diet of introduced ruffe inhabiting the St. Louis estuary. Their findings indicated that the species prey heavily on benthic insects thereby suggesting that ruffe compete for food with yellow perch, trout-perch, and other native benthic-feeding fishes (http://nas.er.usgs.gov/fishes/accounts/percidae/gy_cernu.html)."

Physical Description: "Distinguishing characteristics were provided by Wheeler (1969, 1978), Maitland (1977), Page and Burr (1991), and McLean (1993) (http://nas.er.usgs.gov/fishes/accounts/percidae/gy_cernu.html)."

References (includes journals, agency/university reports, and internet links):

1. http://nas.er.usgs.gov/fishes/accounts/percidae/gy_cernu.html. USGS Nonindigenous Aquatic Species Profiles.

2. http://www.seagrant.wisc.edu/greatlakesfish/fruffe1.html. University of Wisconsin Sea Grant Institute.

3. Berg, L. S. 1948-1949. Freshwater fishes of the U.S.S.R. and adjacent countries, 4th edition. Three volumes. Translated from Russian, 1962-1965, for the Smithsonian Institution and the National Science Foundation, by Israel Program for Scientific Translations, Jerusalem, Israel. Volume 1:504 pp.; volume 2:496 pp.; volume 3:510 pp

4. Wheeler, A. 1978. Key to the fishes of northern Europe. Frederick Warne Ltd., London, England.

5. Page, L. M., and B. M. Burr. 1991. A field guide to freshwater fishes of North America north of Mexico. The Peterson Field Guide Series, volume 42. Houghton Mifflin Company, Boston, MA.

6. Pratt, D. M., W. H. Blust, and J. H. Selgeby. 1992. Ruffe, *Gymnocephalus cernuus*: newly introduced in North America. Canadian Journal of Fisheries and Aquatic Sciences 49:1616-1618.

7. Ruffe Task Force. 1992. Ruffe in the Great Lakes: a threat to North American fisheries. Great Lakes Fishery Commission, Ann Arbor, MI.

8. McLean, M. 1993. Ruffe (*Gymnocephalus cernuus*) fact sheet. Minnesota Sea Grant Program, Great Lakes Sea Grant Network, Duluth, MN

9. Raloff, J. 1992. Exotic intruders. Science News 142(4):56-58.

10. Savino, J. F., and C. S. Kolar. 1996. Competition between nonindigenous ruffe and native yellow perch in laboratory studies. Transactions of the American Fisheries Society 125(4):562-571.

11. Ogle, D. H., J. H. Selgeby, J. F. Savino, R M. Newman, and M. G. Henry. 1995. Diet and feeding periodicity of ruffe in the St. Louis River estuary, Lake Superior. Transactions of the American Fisheries Society 124:356-369.

12. Maitland, P. S. 1977. The Hamlyn guide to freshwater fishes of Britain and Europe. Hamlyn Publishing Group Limited, New York, NY.

Available Mapping Information:

1. USGS Nonindigenous Aquatic Species Profiles. http://nas.er.usgs.gov/fishes/accounts/percidae/gy_cernu.html